

#### ABSTRACT OF THE DISCLOSURE

A method for monitoring a tyre during running includes acquiring and storing, at least temporarily, a first curve representing an acceleration profile of a first point of a tread area of the tyre; acquiring and storing, at least temporarily, at least one second curve representing an acceleration profile of a second point of the tread area; and comparing the first curve and the at least one second curve, or parameters derived from the first curve and the at least one second curve, so as to determine a dynamic behavior of the tyre. The first and second points are located substantially on a same meridian plane of the tyre. A related tyre, wheel for a vehicle, system for monitoring a tyre during running, and method for controlling a vehicle are also disclosed.